EXHIBIT A

Standley Creek Watershed Implementation, Phase I Additional Sites

SCOPE OF WORK

Under direction of the Department of Fish and Game, and under the following conditions and terms, the Grantee will:

1. Implement site specific erosion control measures to protect and improve salmonid spawning and rearing habitat for Chinook and coho salmon, and steelhead trout in Standley Creek, tributary to the South Fork Eel River in Mendocino County, California. The objective is to save approximately 3,857 cubic yards of potential sediment delivery by dispersing road runoff on 1.09 miles of road, reestablishing natural drainage patterns at stream crossings and removing or stabilizing sediment along the road alignments.

2. Conduct work on abandoned and seasonal roads in Standley Creek watershed beginning approximately 4.0 miles upstream from the confluence with South Fork Eel River. The project is located in Township 24N, Range 18W, Section 15, 18, 22 of the Piercy 7.5 Minute U.S.G.S. Quadrangle, 39.923 N latitude and 123.847 W longitude as depicted in Exhibit C, Project Location Map, which is attached and made part of this agreement by this reference.

3. Upgrade approximately 3,750 feet of Road 5701 thereby saving approximately 694 cubic yards of sediment from delivery to Standley Creek. The following treatments will be implemented where appropriate:
   - Installation of culverts sized for the 100-year flood flow, including sufficient capacity for expected wood and sediment;
   - Installation of critical dips to eliminate diversion potential;
   - Installation of rock armored fill crossings or fords;
   - Excavation and/or armoring of inboard ditches;
   - Excavation of culvert inlets;
   - Installation of downspouts and/or rock dissipation at culvert outlets;
   - Construction of rock armored fords;
   - Installation of rolling dips;
   - Reshaping of road surfaces;
   - Removal of berms;
   - Installation of ditch relief culverts;
   - Rocking of road surfaces with a minimum of 6” of rock;
   - Seeding and mulching of all exposed soils which may deliver sediment to a stream. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years.

   Decommission approximately 2,000 feet of Road 2510 at 9 sites thereby saving approximately 3,163 cubic yards of sediment from delivery to Standley Creek. The following treatments will be implemented where appropriate:
   - Excavation of in-place stream crossings at locations where roads or landings were built across stream channels. This includes complete excavation of the fill, including the culvert or Humboldt log crossing so the original stream bed and side slopes are exhumed. A stream crossing excavation includes removing the culvert and the underlying and the adjacent fill material. Complete excavation of stream crossing fills, includes 100 year flood channel bottom widths and 2:1 or otherwise stable side slopes. When possible the

excavated spoil will be stored at nearby stable locations where it will not erode. If there is a limited amount of stable storage locations at the excavation site the crossing fill material will be hauled off-site for storage.

- Road surface treatments: 1) ripping of the surface of the road or landing using mechanical rippers to reduce surface runoff and improve revegetation; 2) in-place outsloping or the excavation of unstable side cast material that could fail and deliver sediment to a stream along the outside edge of a road prism or landing and the replacement of the spoil on the roadbed against the corresponding adjacent cutbank, or in close proximity of the site; 3) exported out-sloping which involves not placing the material against the cutbank so the material is end hauled to a spoil disposal site; 4) installation of cross drains or deep water bars at 50, 75, 100 or 200 foot intervals or as necessary at springs and seeps to disperse road surface runoff. The cross road drains provide road surface drainage and prevent the collection of concentrated runoff on the former roadbed.
- Seeding and mulching of all exposed soils which may deliver sediment to a stream. Woody debris will be concentrated on finished slopes adjacent to stream crossings. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years.

4. The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured.

5. The landowner must maintain road upgrading projects for a minimum of 10 years.

6. All crossings treated in fish bearing reaches of streams will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and DFG criteria for adult and juvenile salmonid fish passage as described in the Third Edition, Volume II, Part IX, February 2003, of the *California Salmonid Stream Habitat Restoration Manual*.

7. Sites which are expected to erode and deliver sediment to the stream are the only locations where work will be authorized for reimbursement under the terms of this agreement. Reimbursement will not be authorized for work done to improve aesthetics only.

8. Notify the Grant Manager a minimum of five working days before any fish bearing stream reaches are dewatered and the stream flow diverted. The notification will provide a reasonable time for Department personnel to supervise the implementation of the water diversion plan and oversee the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:
   - Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year.
   - The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible.
   - All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
   - The Grantee will provide fish relocation data to the Grant Manager on a form provided by the Department of Fish and Game.

- Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.

9. Mulching and seeding will take place as sites are completed to avoid unforeseen erosion. Planting of tree seedlings will take place after December 1 or when sufficient rainfall has occurred to insure the best chance of survival of the seedlings. The standard for success is 80% survival of plantings, after a period of three years.

10. All crossing upgrades in fish bearing reaches of streams will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and DFG criteria for adult and juvenile salmonid fish passage as described in the Third Edition, Volume II, Part IX, February 2003, of the *California Salmonid Stream Habitat Restoration Manual*. Culvert replacement or modification designs shall be visually reviewed and authorized by NOAA Fisheries (or DFG) engineers prior to commencement of work.

11. All road upgrading and decommissioning will be done in accordance with techniques described in the Handbook for Forest and Ranch Roads, (PWA, 1994c.) and the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part X, March 2006. All road decommissioning and upgrade sites and techniques shall be approved by the Grant Manager before any equipment work takes place.

12. All habitat improvements will follow techniques described in the Third Edition, January 1998, of the *California Salmonid Stream Habitat Restoration Manual*, Flosi et al and the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part XI, January 2004.

13. Work in flowing streams is restricted to June 15 through October 31. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Game.

14. If the project will not be completed by March 31, 2012, and therefore the grantee will be requesting an amendment for time, this request and a justification for the delay resulting in the time request must be submitted no later than December 1, 2011.

15. An annual report will be submitted each year, no later than December 1, detailing the work completed that field season. The annual report will include, but not necessarily be limited to the following where applicable:

    - Implementation start and end dates
    - Percentage of the project completed in total to date
    - Dewatering and fish relocation on DFG data sheet (to be provided by the DFG Grant Manager upon request)
    - Project start and end dates for work to be implemented the following season

    The annual report will also include, on a site by site basis:

    - Road length segment decommissioned or upgraded per road segment
    - Sediment spoils volume estimate per road segment
    - Upslope stream crossings decommissioned (not for fish passage)
    - Stream crossings treated to improve fish passage (number)

- Stream crossing upgraded
- Stream length opened for fish passage by improving stream crossings (miles)
- Sediment volume prevented from entering the stream per crossing
- Sediment spoils volume estimate per crossing
- Upslope area treated (sq ft) (landslides, bank stabilization)
- Amount of riparian area treated per site in acres
- Number of trees planted

16. Upon completion of the project, the Grantee shall submit two hard copies of a final written report and one electronic, Microsoft Word compatible, copy on a CD. The report shall include, but not necessarily be limited to the following information:
    - Grant number
    - Project name
    - Geographic area (e.g., watershed name)
    - Location of work – show project location using U.S.G.S. 7.5 minute topographical map or appropriately scaled topographical map
    - Geospatial reference/location (lat/long is preferred – defined as point, line, or polygon)
    - Project start and end dates and the number of person hours expended
    - Total of each fund source, by line item, expended to complete the project, breaking down Grant dollars, by line item, and any other funding, including type of match (cash or in-kind service)
    - Expected benefits to anadromous salmonids from the project
    - Labeled before and after photographs of any restoration activities and techniques
    - Specific project access using public and private roads and trails, with landowner name and address
    - Complete as built project description
    - Report measurable metrics for the project by responding to the restoration project metrics listed below.

Habitat Protection and Restoration Projects– Reporting Metrics (HU)
(Report N/A to those that do not apply)

Habitat Projects: (all)

- Identify the watershed/sub-basin plan or assessment in which the project is identified as a priority.
- Name the priority habitat limiting factors identified in that plan that are addressed by the project
- Type of monitoring included in the project
    - Design spec achieved
    - Fish movement/abundance
- Number of stream miles treated/affected by the project within the project boundaries.

Upland Habitat Projects (HU)

- Number of actions (road decommission / upgrade)
- Total acres of upslope area treated.
- Total miles of road treated.
- Miles of road treated for road drainage system improvements.
- Miles of road decommissioned.

- Number of cubic yards of sediment saved from entering the stream.

Fish Passage Improvement Projects (HB)

- Miles of stream treated.
- Types of crossings treated, select from: culvert, bridge or ford.
- Miles of stream made more accessible by treating stream crossings.
- Number of road crossings removed.
- Number of barriers other than culverts treated for fish passage.
- Miles of stream made more accessible by removing barriers other than culverts.

Riparian Habitat Projects (HR, HS)

- Miles of stream treated overall, count stream reach only once.
- Miles of riparian stream bank treated, measure both sides of the bank.
- Total acres of riparian area treated.
- Acres of riparian area planted.
- Species scientific names of plants planted.

17. The Grantee will acknowledge the participation of the Department of Fish and Game, Fisheries Restoration Grant funds on any signs, flyers, or other types of written communication or notice to advertise or explain the Standley Creek Watershed Implementation, Phase I Additional Sites Project.

Exhibit C
Standley Creek Watershed Implementation Project
Project Location Map
Township 24N, Range 18W, Section 15, 18, & 22 Piercy Quad
Mendocino County

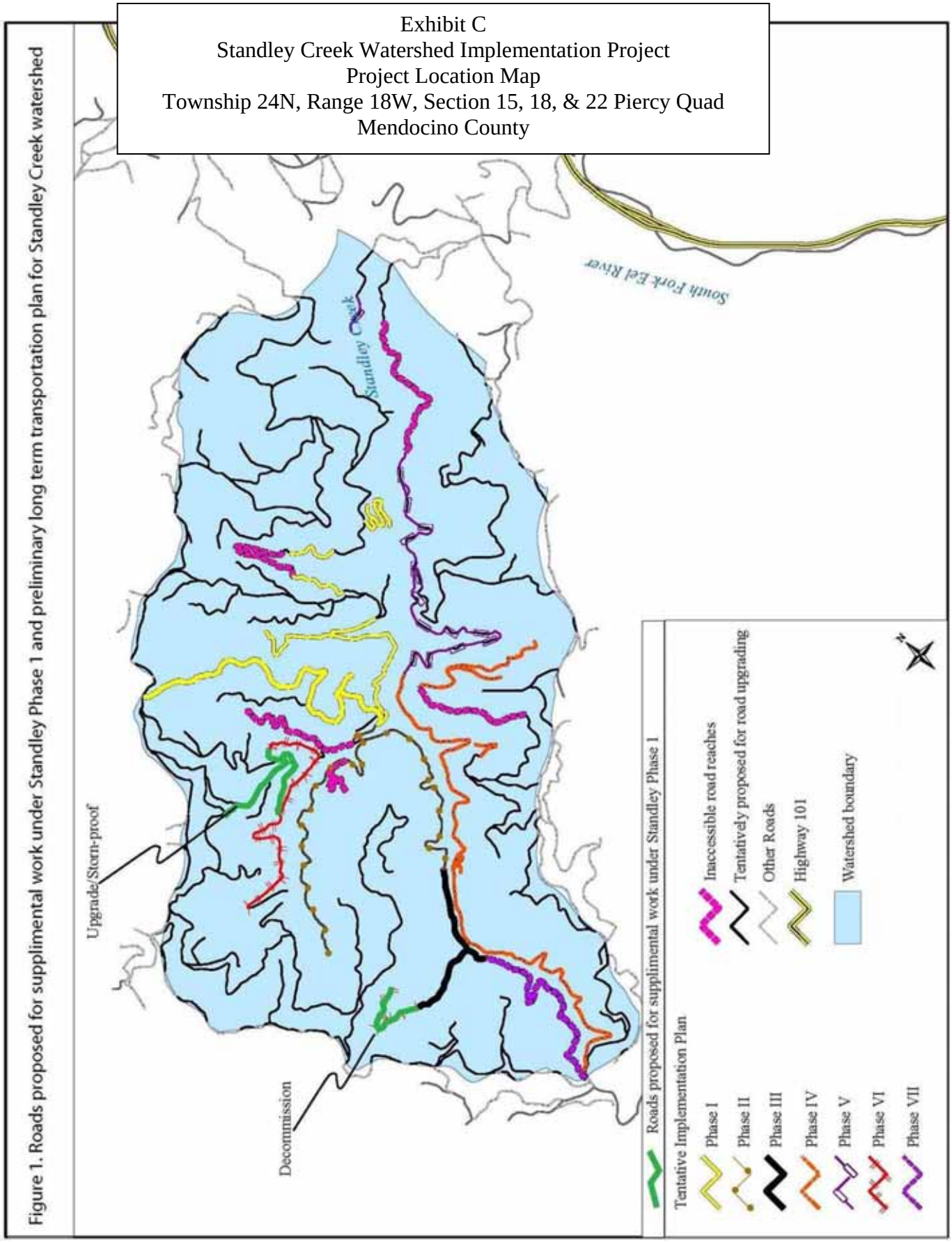


Figure 1. Roads proposed for supplimental work under Standley Phase 1 and preliminary long term transportation plan for Standley Creek watershed

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Common Name - Portrait
Possible Species within the Piercy Quad and Surrounding Quads for:
Standley Creek Watershed Implementation Phase 1 Amendment
T24N R18W S15, 18, 22
United States

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	California floater *Anodonta californiensis*	IMBIV04020			G3Q	S2?	
2	Cooper's hawk *Accipiter cooperii*	ABNKC12040			G5	S3	
3	Howell's montia *Montia howellii*	PDPOR05070			G3G4	S3	2.2
4	Humboldt milk-vetch *Astragalus agnicidus*	PDFAB0F080		Endangered	G2	S2.1	1B.1
5	Kellogg's buckwheat *Eriogonum kelloggii*	PDPGN083A0	Candidate	Endangered	G1	S1.2	1B.2
6	Mcdonald's rock-cress *Arabis macdonaldiana*	PDBRA06150	Endangered	Endangered	G2	S2.1	1B.1
7	Mendocino Coast paintbrush *Castilleja mendocinensis*	PDSCR0D3N0			G2	S2.2	1B.2
8	Mendocino gentian *Gentiana setigera*	PDGEN060S0			G2	S1	1B.2
9	Oregon coast paintbrush *Castilleja affinis ssp. litoralis*	PDSCR0D012			G4G5T4	S2.2	2.2
10	Oregon goldthread *Coptis laciniata*	PDRAN0A020			G4G5	S2.2	2.2
11	Pacific gilia *Gilia capitata ssp. pacifica*	PDPLM040B6			G5T3T4	S2.2?	1B.2
12	Pacific tailed frog *Ascaphus truei*	AAABA01010			G4	S2S3	SC
13	Point Reyes horkelia *Horkelia marinensis*	PDROS0W0B0			G2	S2.2	1B.2
14	Raiche's manzanita *Arctostaphylos stanfordiana ssp. raichei*	PDERI041G2			G3T2?	S2?	1B.1
15	Red Mountain catchfly *Silene campanulata ssp. campanulata*	PDCAR0U0A2		Endangered	G5T3Q	S3.2	4.2
16	Red Mountain stonecrop *Sedum eastwoodiae*	PDCRA0A1S0	Candidate		G1	S1.2	1B.2
17	Sonoma canescent manzanita *Arctostaphylos canescens ssp. sonomensis*	PDERI04066			G3G4T2	S2.1	1B.2
18	Sonoma tree vole *Arborimus pomo*	AMAFF23030			G3	S3	SC
19	Whitney's farewell-to-spring *Clarkia amoena ssp. whitneyi*	PDONA05025			G5T2	S2.1	1B.1
20	coast fawn lily *Erythronium revolutum*	PMLIL0U0F0			G4	S3	2.2
21	coho salmon - central California coast ESU *Oncorhynchus kisutch*	AFCHA02034	Endangered	Endangered	G4	S2?	
22	foothill yellow-legged frog *Rana boylii*	AAABH01050			G3	S2S3	SC

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
23	leafy reed grass *Calamagrostis foliosa*	PMPOA170C0		Rare	G3	S3.2	4.2
24	leafy-stemmed mitrewort *Mitella caulescens*	PDSAX0N020			G5	S4.2	4.2
25	long-beard lichen *Usnea longissima*	NLLEC5P420			G4	S4.2	
26	maple-leaved checkerbloom *Sidalcea malachroides*	PDMAL110E0			G3G4	S3S4.2	4.2
27	northern goshawk *Accipiter gentilis*	ABNKC12060			G5	S3	SC
28	northern spotted owl *Strix occidentalis caurina*	ABNSB12011	Threatened		G3T3	S2S3	SC
29	osprey *Pandion haliaetus*	ABNKC01010			G5	S3	
30	oval-leaved viburnum *Viburnum ellipticum*	PDCPR07080			G5	S2.3	2.3
31	pallid bat *Antrozous pallidus*	AMACC10010			G5	S3	SC
32	robust monardella *Monardella villosa ssp. globosa*	PDLAM180P7			G5T2	S2.2	1B.2
33	southern torrent salamander *Rhyacotriton variegatus*	AAAAJ01020			G3G4	S2S3	SC
34	summer-run steelhead trout *Oncorhynchus mykiss irideus*	AFCHA0213B			G5T4Q	S2	SC
35	western pearlshell *Margaritifera falcata*	IMBIV27020			G4	S2S3?	
36	western pond turtle *Actinemys marmorata*	ARAAD02030			G3G4	S3	SC
37	white-flowered rein orchid *Piperia candida*	PMORC1X050			G3	S3.2	1B.2

EXHIBIT A

Little North Fork Navarro River Salmonid Habitat Enhancement Project Phase II

SCOPE OF WORK

Under direction of the Department of Fish and Game, and under the following conditions and terms, the Grantee will:

1. Improve spawning and rearing habitat for coho salmon and steelhead trout by increasing habitat diversity in Little North Fork Navarro River, tributary to the North Branch North Fork Navarro River in Mendocino County. The objective is to improve the quality and quantity of salmonid habitat by placing large wood structures instream to increase pool habitat, provide holding habitat for migrating salmonids, and sort and collect spawning gravels.

2. The Grantee will conduct work along a section of Little North Fork Navarro River beginning 6,550 feet upstream of the confluence with John Smith Creek and North Branch North Fork Navarro River and continuing upstream for 1.7 miles. The downstream end of the project site is located in Township 16 North, Range 15 West, Section 34 of the Navarro 7.5 Minute U.S.G.S. Quadrangle. The upstream end of the project site is located in Township 16 North, Range 15 West, Section 35 of the Bailey Ridge 7.5 Minute U.S.G.S. Quadrangle. The locations of the project boundaries are approximately 39.2039 north latitude, 123.5152 west longitude at the downstream end, and 39.2035 north latitude, 123.4950 west longitude at the upstream end as depicted in Exhibit C, Project Location Map, which is attached and made part of this agreement by this reference.

3. Habitat improvements will be accomplished by installing instream habitat structures at 32 sites including 50 pieces of large wood/root wads and repositioning 3 existing log structures. Final structure design and placement will be determined by field consultation between the Grantee and the DFG Grant Manager.

4. The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured.

5. Work will consist of the following:
   - California Conservation Corps (CCC) crew members will construct instream log structures according to the site specific plans to be provided, using locally available logs or logs from other locations.
   - Logs may be moved into location by CCC hand crews, or by using heavy equipment if necessary.
   - Various anchoring techniques, which will be approved by the DFG grant manager prior to the initiation of work, may be used to hold multiple logs together to form complex structures. Anchoring techniques will include wedging logs into existing rocks and logs along the riparian banks; anchoring to live mature trees growing on

riparian banks; or anchoring to existing boulders. Anchoring materials will consist of 1" threaded rebar, cable, nuts and washers, and waterproof epoxy.

6. Work in flowing streams is restricted to June 15 through October 31. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Game.

7. The Grantee shall notify the Grant Manager a minimum of five working days before any fish bearing stream reaches are dewatered and the stream flow diverted. The notification will provide a reasonable time for Department personnel to supervise the implementation of the water diversion plan and oversee the safe removal and relocation of salmonids and other aquatic species from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:
   - Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year.
   - The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible.
   - All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
   - The Grantee will provide fish relocation data to the Grant Manager on a form provided by the Department of Fish and Game.
   - Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.

8. All habitat improvements will follow techniques described in the Third Edition, January 1998, of the *California Salmonid Stream Habitat Restoration Manual*, Flosi et al. and the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part XI, January 2004.

9. If the project will not be completed by March 31, 2012, and therefore the grantee will be requesting an amendment for time, this request and a justification for the delay resulting in the time request must be submitted no later than December 1, 2011.

10. An annual report will be submitted each year, no later than December 1, detailing the work completed that field season. The annual report will include, but not necessarily be limited to the following where applicable:
    - Implementation start and end dates
    - Percentage of the project completed in total to date
    - Dewatering and fish relocation on DFG data sheet (to be provided by the DFG grant manager upon request)
    - Project start and end dates for work to be implemented the following season

The annual report will also include, on a site by site basis:

- Stream length treated in feet (count one side only)
- Length of aquatic habitat disturbed (feet)
- Number of instream structures installed/modified
- Area of each structure installed within bankfull width (length x width)
- Length of instream habitat treated excluding bank stabilization

11. Upon completion of the project, the Grantee shall submit two hard copies of a final written report and one electronic, Microsoft Word compatible, copy on a CD. The report shall include, but not necessarily be limited to the following information:
    - Grant number
    - Project name
    - Geographic area (e.g., watershed name)
    - Location of work – show project location using U.S.G.S. 7.5 minute topographical map or appropriately scaled topographical map
    - Geospatial reference/location (lat/long is preferred – defined as point, line, or polygon)
    - Project start and end dates and the number of person hours expended
    - Total of each fund source, by line item, expended to complete the project, breaking down Grant dollars, by line item, and any other funding, including type of match (cash or in-kind service)
    - Expected benefits to anadromous salmonids from the project
    - Labeled before and after photographs of any restoration activities and techniques
    - Specific project access using public and private roads and trails, with landowner name and address
    - Complete as built project description
    - Report measurable metrics for the project by responding to the restoration project metrics listed below.

Habitat Protection and Restoration Projects– Reporting Metrics (HI)
(Report N/A to those that do not apply)

Habitat Projects: (all)

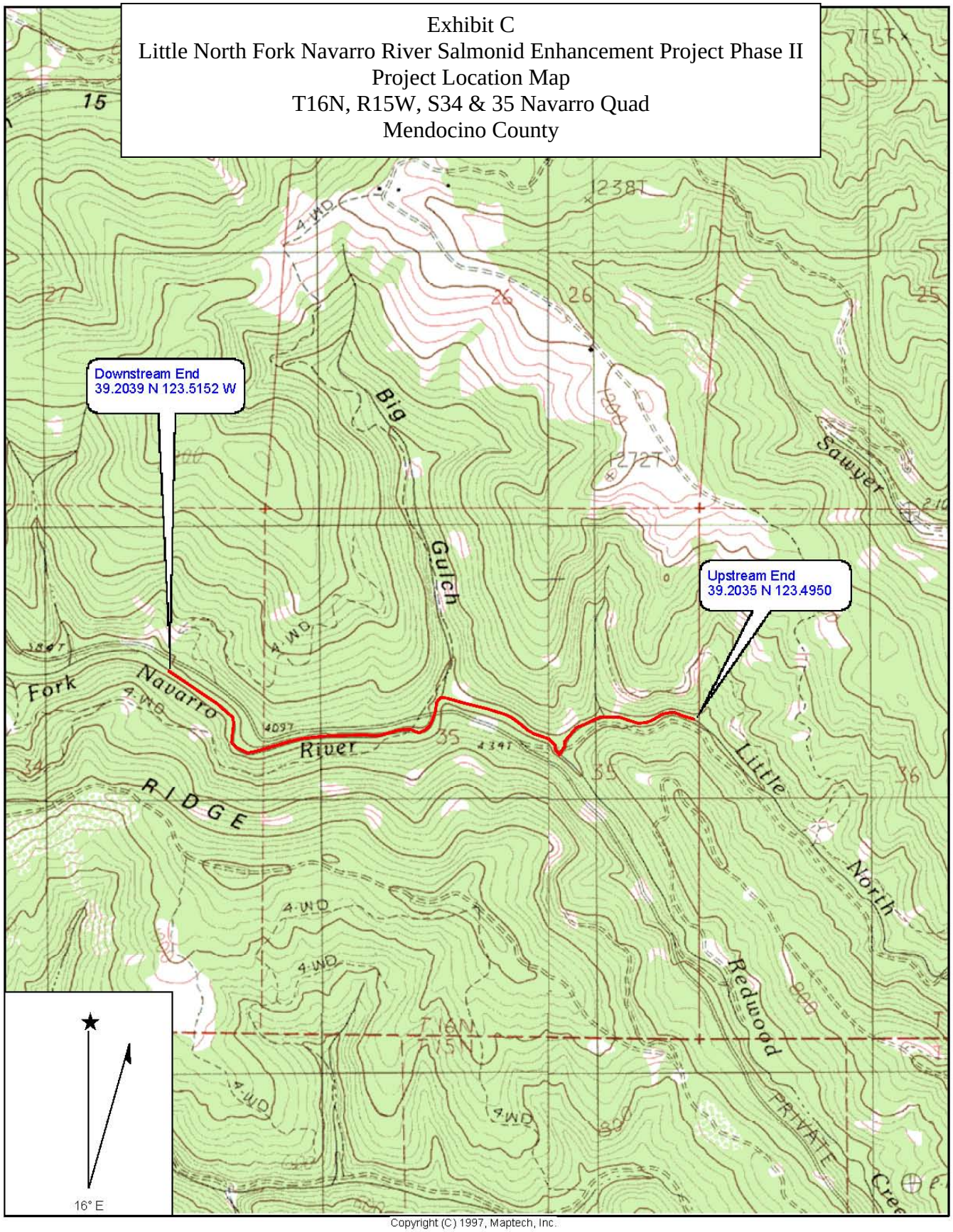
- Identify the watershed/sub-basin plan or assessment in which the project is identified as a priority.
- Name the priority habitat limiting factors identified in that plan that are addressed by the project
- Type of monitoring included in the project
    - Design spec achieved
    - Fish movement/abundance
- Number of stream miles treated/affected by the project within the project boundaries.

Instream Habitat Projects (HI)

- Description of instream treatments used, including site locations referenced to an established landmark, number of treatment sites, and any modifications to site/treatment design.
- Type of materials used for channel structure placement, select from: individual logs (unanchored); logs fastened together (logjam); rocks/boulders (unanchored); rocks/boulders (fastened or anchored); stumps with roots attached (rootwads); weirs; gabions; deflectors/barbs; or other engineered structures
- Miles of stream treated with channel structure placement
- Number of instream pools created by structure placement
- Number of structures placed in channel.

12. The Grantee will acknowledge the participation of the Department of Fish and Game, Fisheries Restoration Grant funds on any signs, flyers, or other types of written communication or notice to advertise or explain the Little North Fork Navarro River Salmonid Habitat Enhancement Project Phase II.

Exhibit C
Little North Fork Navarro River Salmonid Enhancement Project Phase II
Project Location Map
T16N, R15W, S34 & 35 Navarro Quad
Mendocino County



California Department of Fish and Game
Natural Diversity Database
Selected Elements by Common Name - Portrait
Possible Species within the Navarro Quad and Surrounding Quads for:
Little North Fork Navarro River Salmonid Habitat Enhancement Project Phase II
T16N 15W S34, 35
United States

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	American peregrine falcon *Falco peregrinus anatum*	ABNKD06071	Delisted	unknown code...	G4T3	S2	
2	Behren's silverspot butterfly *Speyeria zerene behrensii*	IILEPJ6088	Endangered		G5T1	S1	
3	Blasdale's bent grass *Agrostis blasdalei*	PMPOA04060			G2	S2.2	1B.2
4	Bolander's beach pine *Pinus contorta ssp. bolanderi*	PGPIN04081			G5T3	S3.2	1B.2
5	California red-legged frog *Rana draytonii*	AAABH01022	Threatened		G4T2T3	S2S3	SC
6	California sedge *Carex californica*	PMCYP032D0			G5	S2?	2.3
7	Coastal Brackish Marsh	CTT52200CA			G2	S2.1	
8	Coastal and Valley Freshwater Marsh	CTT52410CA			G3	S2.1	
9	Grand Fir Forest	CTT82120CA			G1	S1.1	
10	Humboldt milk-vetch *Astragalus agnicidus*	PDFAB0F080		Endangered	G2	S2.1	1B.1
11	Mendocino Coast paintbrush *Castilleja mendocinensis*	PDSCR0D3N0			G2	S2.2	1B.2
12	Mendocino Pygmy Cypress Forest	CTT83161CA			G2	S2.1	
13	Mendocino leptonetid spider *Calileptoneta wapiti*	ILARAU6040			G1	S1	
14	Navarro roach *Lavinia symmetricus navarroensis*	AFCJB19023			G5T1T2	S1S2	SC
15	North Coast semaphore grass *Pleuropogon hooverianus*	PMPOA4Y070		Threatened	G1	S1.1	1B.1
16	Northern Coastal Salt Marsh	CTT52110CA			G3	S3.2	
17	Oregon goldthread *Coptis laciniata*	PDRAN0A020			G4G5	S2.2	2.2
18	Pacific gilia *Gilia capitata ssp. pacifica*	PDPLM040B6			G5T3T4	S2.2?	1B.2
19	Pacific tailed frog *Ascaphus truei*	AAABA01010			G4	S2S3	SC
20	Point Arena mountain beaver *Aplodontia rufa nigra*	AMAFA01011	Endangered		G5T1	S1	SC
21	Point Reyes checkerbloom *Sidalcea calycosa ssp. rhizomata*	PDMAL11012			G5T2	S2.2	1B.2
22	Pomo bronze shoulderband *Helminthoglypta arrosa pomoensis*	IMGASC2033			G2G3T1	S1	
23	Roderick's fritillary *Fritillaria roderickii*	PMLIL0V0M0		Endangered	G1Q	S1.1	1B.1
24	Santa Cruz clover *Trifolium buckwestiorum*	PDFAB402W0			G1	S1.1	1B.1

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
25	Sonoma tree vole *Arborimus pomo*	AMAFF23030			G3	S3	SC
26	Sphagnum Bog	CTT51110CA			G3	S1.2	
27	coast fawn lily *Erythronium revolutum*	PMLIL0U0F0			G4	S3	2.2
28	coast lily *Lilium maritimum*	PMLIL1A0C0			G2	S2	1B.1
29	deceiving sedge *Carex saliniformis*	PMCYP03BY0			G2	S2.2	1B.2
30	foothill yellow-legged frog *Rana boylii*	AAABH01050			G3	S2S3	SC
31	great burnet *Sanguisorba officinalis*	PDROS1L060			G5?	S2.2	2.2
32	leafy-stemmed mitrewort *Mitella caulescens*	PDSAX0N020			G5	S4.2	4.2
33	long-beard lichen *Usnea longissima*	NLLEC5P420			G4	S4.2	
34	maple-leaved checkerbloom *Sidalcea malachroides*	PDMAL110E0			G3G4	S3S4.2	4.2
35	minute pocket moss *Fissidens pauperculus*	NBMUS2W0U0			G3?	S1.2	1B.2
36	northern red-legged frog *Rana aurora*	AAABH01021			G4T4	S2?	SC
37	northern spotted owl *Strix occidentalis caurina*	ABNSB12011	Threatened		G3T3	S2S3	SC
38	osprey *Pandion haliaetus*	ABNKC01010			G5	S3	
39	perennial goldfields *Lasthenia californica ssp. macrantha*	PDAST5L0C5			G3T2	S2.2	1B.2
40	purple martin *Progne subis*	ABPAU01010			G5	S3	SC
41	purple-stemmed checkerbloom *Sidalcea malviflora ssp. purpurea*	PDMAL110FL			G5T2	S2.2	1B.2
42	pygmy cypress *Callitropsis pygmaea*	PGCUP04032			G2	S2	1B.2
43	pygmy manzanita *Arctostaphylos mendocinoensis*	PDERI04280			G1	S1?	1B.2
44	seacoast ragwort *Packera bolanderi var. bolanderi*	PDAST8H0H1			G4T4	S1.2	2.2
45	small groundcone *Boschniakia hookeri*	PDORO01010			G5	S1S2	2.3
46	southern torrent salamander *Rhyacotriton variegatus*	AAAAJ01020			G3G4	S2S3	SC

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
47	steelhead - northern California ESU *Oncorhynchus mykiss irideus*	AFCHA0209Q	Threatened		G5T2Q	S2	SC
48	swamp harebell *Campanula californica*	PDCAM02060			G3	S3	1B.2
49	tricolored blackbird *Agelaius tricolor*	ABPBXB0020			G2G3	S2	SC
50	white beaked-rush *Rhynchospora alba*	PMCYP0N010			G5	S3.2	2.2
51	white-flowered rein orchid *Piperia candida*	PMORC1X050			G3	S3.2	1B.2

EXHIBIT A

North Fork Noyo River Salmonid Habitat Enhancement Project Phase II

SCOPE OF WORK

Under direction of the Department of Fish and Game, and under the following conditions and terms, the Grantee will:

1. Improve spawning and rearing habitat for coho salmon and steelhead trout by increasing habitat diversity in the North Fork Noyo River, tributary to the Noyo River in Mendocino County. The objective is to improve the quality and quantity of salmonid habitat by placing large wood structures instream to increase pool habitat, provide holding habitat for migrating salmonids, and sort and collect spawning gravel.

2. The Grantee will conduct work along a section of the North Fork Noyo River beginning 4,330 feet upstream from the confluence with Hayworth Creek and continuing upstream for 4,650 feet. The upstream end of the project site is located in Township 19 North, Range 15 West, Section 29 of the Northspur 7.5 Minute U.S.G.S. Quadrangle. The downstream end of the project site is located in Township 19 North, Range 15 West, Section 33 of the Northspur 7.5 Minute U.S.G.S. Quadrangle. The locations of the project boundaries are approximately 39.4611 north latitude, 123.5353 west longitude at the downstream end, and 39.4703 north latitude, 123.5439 west longitude at the upstream end as depicted in Exhibit C, Project Location Map, which is attached and made part of this agreement by this reference.

3. Habitat improvements will be accomplished by installing instream habitat structures at 15 sites including 34 pieces of large wood/root wads. Final structure design and placement will be determined by field consultation between the Grantee and the DFG Grant Manager.

4. The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured.

5. Work will consist of the following:
   - California Conservation Corps (CCC) crew members will construct instream log structures according to the site specific plans to be provided, using locally available logs or logs from other locations.
   - Logs may be moved into location by CCC hand crews, or by using heavy equipment if necessary.
   - Various anchoring techniques, which will be approved by the DFG grant manager prior to the initiation of work, may be used to hold multiple logs together to form complex structures. Anchoring techniques will include wedging logs into existing rocks and logs along the riparian banks; anchoring to live mature trees growing on riparian banks; or anchoring to existing boulders. Anchoring materials will consist of 1” threaded rebar, cable, nuts and washers, and waterproof epoxy.

6. Work in flowing streams is restricted to June 15 through October 31. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Game.

7. The Grantee shall notify the Grant Manager a minimum of five working days before any fish bearing stream reaches are dewatered and the stream flow diverted. The notification will provide a

reasonable time for Department personnel to supervise the implementation of the water diversion plan and oversee the safe removal and relocation of salmonids and other aquatic species from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:

- Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year.
- The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible.
- All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- The Grantee will provide fish relocation data to the Grant Manager on a form provided by the Department of Fish and Game.
- Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.

8. All habitat improvements will follow techniques described in the Third Edition, January 1998, of the *California Salmonid Stream Habitat Restoration Manual*, Flosi et al. and the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part XI, January 2004.

9. If the project will not be completed by March 31, 2012, and therefore the grantee will be requesting an amendment for time, this request and a justification for the delay resulting in the time request must be submitted no later than December 1, 2011.

10. An annual report will be submitted each year, no later than December 1, detailing the work completed that field season. The annual report will include, but not necessarily be limited to the following where applicable:

    - Implementation start and end dates
    - Percentage of the project completed in total to date
    - Dewatering and fish relocation on DFG data sheet (to be provided by the DFG grant manager upon request)
    - Project start and end dates for work to be implemented the following season

    The annual report will also include, on a site by site basis:

    - Stream length treated in feet (count one side only)
    - Length of aquatic habitat disturbed (feet)
    - Number of instream structures installed/modified
    - Area of each structure installed within bankfull width (length x width)
    - Length of instream habitat treated excluding bank stabilization

11. Upon completion of the project, the Grantee shall submit two hard copies of a final written report and one electronic, Microsoft Word compatible, copy on a CD. The report shall include, but not necessarily be limited to the following information:
    - Grant number
    - Project name

- Geographic area (e.g., watershed name)
- Location of work – show project location using U.S.G.S. 7.5 minute topographical map or appropriately scaled topographical map
- Geospatial reference/location (lat/long is preferred – defined as point, line, or polygon)
- Project start and end dates and the number of person hours expended
- Total of each fund source, by line item, expended to complete the project, breaking down Grant dollars, by line item, and any other funding, including type of match (cash or in-kind service)
- Expected benefits to anadromous salmonids from the project
- Labeled before and after photographs of any restoration activities and techniques
- Specific project access using public and private roads and trails, with landowner name and address
- Complete as built project description
- Report measurable metrics for the project by responding to the restoration project metrics listed below.

Habitat Protection and Restoration Projects– Reporting Metrics (HI)
(Report N/A to those that do not apply)

Habitat Projects: (all)

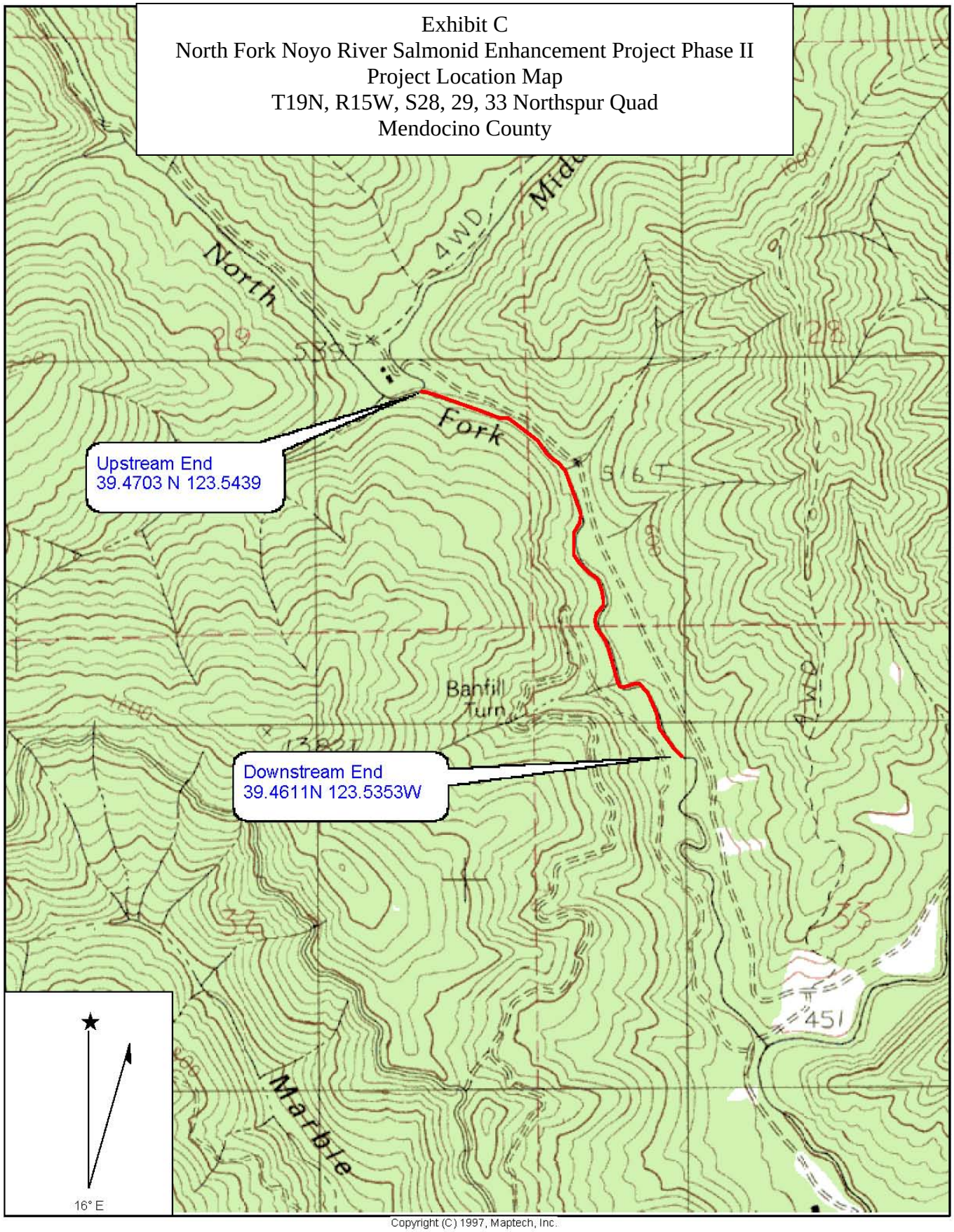
- Identify the watershed/sub-basin plan or assessment in which the project is identified as a priority.
- Name the priority habitat limiting factors identified in that plan that are addressed by the project
- Type of monitoring included in the project
    - Design spec achieved
    - Fish movement/abundance
- Number of stream miles treated/affected by the project within the project boundaries.

Instream Habitat Projects (HI)

- Description of instream treatments used, including site locations referenced to an established landmark, number of treatment sites, and any modifications to site/treatment design.
- Type of materials used for channel structure placement, select from: individual logs (unanchored); logs fastened together (logjam); rocks/boulders (unanchored); rocks/boulders (fastened or anchored); stumps with roots attached (rootwads); weirs; gabions; deflectors/barbs; or other engineered structures
- Miles of stream treated with channel structure placement
- Number of instream pools created by structure placement
- Number of structures placed in channel.

12. The Grantee will acknowledge the participation of the Department of Fish and Game, Fisheries Restoration Grant funds on any signs, flyers, or other types of written communication or notice to advertise or explain the North Fork Noyo River Salmonid Habitat Enhancement Project Phase II.

Exhibit C
North Fork Noyo River Salmonid Enhancement Project Phase II
Project Location Map
T19N, R15W, S28, 29, 33 Northspur Quad
Mendocino County



California Department of Fish and Game
Natural Diversity Database
Selected Elements by Common Name - Portrait
Possible Species within the Northspur Quad and Surrounding Quads for:
North Fork Noyo River Salmonid Habitat Enhancement Project Phase II
T19N R15 S28, 29, 33
United States

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	American badger *Taxidea taxus*	AMAJF04010			G5	S4	SC
2	Baker's navarretia *Navarretia leucocephala ssp. bakeri*	PDPLM0C0E1			G4T2	S2.1	1B.1
3	Behren's silverspot butterfly *Speyeria zerene behrensii*	IILEPJ6088	Endangered		G5T1	S1	
4	Bolander's beach pine *Pinus contorta ssp. bolanderi*	PGPIN04081			G5T3	S3.2	1B.2
5	California red-legged frog *Rana draytonii*	AAABH01022	Threatened		G4T2T3	S2S3	SC
6	California sedge *Carex californica*	PMCYP032D0			G5	S2?	2.3
7	Del Norte salamander *Plethodon elongatus*	AAAAD12050			G4	S3	SC
8	Humboldt milk-vetch *Astragalus agnicidus*	PDFAB0F080		Endangered	G2	S2.1	1B.1
9	Lyngbye's sedge *Carex lyngbyei*	PMCYP037Y0			G5	S2.2	2.2
10	Milo Baker's lupine *Lupinus milo-bakeri*	PDFAB2B4E0		Threatened	G1Q	S1.1	1B.1
11	North Coast semaphore grass *Pleuropogon hooverianus*	PMPOA4Y070		Threatened	G1	S1.1	1B.1
12	Oregon goldthread *Coptis laciniata*	PDRAN0A020			G4G5	S2.2	2.2
13	Pacific tailed frog *Ascaphus truei*	AAABA01010			G4	S2S3	SC
14	Point Reyes horkelia *Horkelia marinensis*	PDROS0W0B0			G2	S2.2	1B.2
15	Sonoma tree vole *Arborimus pomo*	AMAFF23030			G3	S3	SC
16	coast fawn lily *Erythronium revolutum*	PMLIL0U0F0			G4	S3	2.2
17	coast lily *Lilium maritimum*	PMLIL1A0C0			G2	S2	1B.1
18	dark-eyed gilia *Gilia millefoliata*	PDPLM04130			G2	S2.2	1B.2
19	deceiving sedge *Carex saliniformis*	PMCYP03BY0			G2	S2.2	1B.2
20	foothill yellow-legged frog *Rana boylii*	AAABH01050			G3	S2S3	SC
21	glandular western flax *Hesperolinon adenophyllum*	PDLIN01010			G2	S2.3	1B.2
22	grass alisma *Alisma gramineum*	PMALI01010			G5	S1S2	2.2

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
23	hoary bat *Lasiurus cinereus*	AMACC05030			G5	S4?	
24	lagoon sedge *Carex lenticularis var. limnophila*	PMCYP037A7			G5T5	S1S2.2	2.2
25	leafy-stemmed mitrewort *Mitella caulescens*	PDSAX0N020			G5	S4.2	4.2
26	long-beard lichen *Usnea longissima*	NLLEC5P420			G4	S4.2	
27	maple-leaved checkerbloom *Sidalcea malachroides*	PDMAL110E0			G3G4	S3S4.2	4.2
28	northern goshawk *Accipiter gentilis*	ABNKC12060			G5	S3	SC
29	northern red-legged frog *Rana aurora*	AAABH01021			G4T4	S2?	SC
30	northern spotted owl *Strix occidentalis caurina*	ABNSB12011	Threatened		G3T3	S2S3	SC
31	osprey *Pandion haliaetus*	ABNKC01010			G5	S3	
32	purple martin *Progne subis*	ABPAU01010			G5	S3	SC
33	pygmy cypress *Callitropsis pygmaea*	PGCUP04032			G2	S2	1B.2
34	pygmy manzanita *Arctostaphylos mendocinoensis*	PDERI04280			G1	S1?	1B.2
35	running-pine *Lycopodium clavatum*	PPLYC01080			G5	S4.1	4.1
36	seacoast ragwort *Packera bolanderi var. bolanderi*	PDAST8H0H1			G4T4	S1.2	2.2
37	seaside tarplant *Hemizonia congesta ssp. congesta*	PDAST4R065			G5T2T3	S2S3	1B.2
38	sharp-shinned hawk *Accipiter striatus*	ABNKC12020			G5	S3	
39	southern torrent salamander *Rhyacotriton variegatus*	AAAAJ01020			G3G4	S2S3	SC
40	steelhead - northern California ESU *Oncorhynchus mykiss irideus*	AFCHA0209Q	Threatened		G5T2Q	S2	SC
41	swamp harebell *Campanula californica*	PDCAM02060			G3	S3	1B.2
42	tidewater goby *Eucyclogobius newberryi*	AFCQN04010	Endangered		G3	S2S3	SC
43	tricolored blackbird *Agelaius tricolor*	ABPBXB0020			G2G3	S2	SC
44	western pond turtle *Actinemys marmorata*	ARAAD02030			G3G4	S3	SC

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
45	white beaked-rush *Rhynchospora alba*	PMCYP0N010			G5	S3.2	2.2
46	white-flowered rein orchid *Piperia candida*	PMORC1X050			G3	S3.2	1B.2

EXHIBIT A

Redwood Creek Salmonid Habitat Enhancement Project

SCOPE OF WORK

Under direction of the Department of Fish and Game, and under the following conditions and terms, the Grantee will:

1. Improve spawning and rearing habitat for coho salmon and steelhead trout by increasing habitat diversity in Redwood Creek, a tributary to the Noyo River in Mendocino County. The objective is to improve the quality and quantity of salmonid habitat by building three boulder weirs and placing large wood structures instream to increase pool habitat, provide holding habitat for migrating salmonids, and sort and collect spawning gravel.

2. The Grantee will conduct work along a section of Redwood Creek beginning at the confluence with Noyo River and continuing upstream for 9,500 feet. The upstream end of the project site is located in Township 18 North, Range 15 West, Section 2 of the Burbeck 7.5 Minute U.S.G.S. Quadrangle. The downstream end of the project site is located in Township 18 North, Range 15 West, Section 12 of the Burbeck 7.5 Minute U.S.G.S. Quadrangle. The locations of the project boundaries are approximately 39.4308 north latitude,123.4939 west longitude at the downstream end, and 39.4467 north latitude, 123.4957 west longitude at the upstream end as depicted in Exhibit C, Project Location Map, which is attached and made part of this agreement by this reference.

3. Habitat improvements will be accomplished by installing instream habitat structures at 44 sites including 73 pieces of large wood/root wads. Three boulder weirs will be built using approximately 50 tons of boulders. Final structure design and placement will be determined by field consultation between the Grantee and the DFG Grant Manager.

4. The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured.

5. Work will consist of the following:
   - California Conservation Corps (CCC) crew members will construct instream log structures according to the site specific plans to be provided, using locally available logs or logs from other locations.
   - Logs may be moved into location by CCC hand crews, or by using heavy equipment if necessary.
   - Various anchoring techniques, which will be approved by the DFG grant manager prior to the initiation of work, may be used to hold multiple logs together to form complex structures. Anchoring techniques will include wedging logs into existing rocks and logs along the riparian banks; anchoring to live mature trees growing on riparian banks; or anchoring to existing boulders. Anchoring materials will consist of 1” threaded rebar, cable, nuts and washers, and waterproof epoxy.
   - Heavy equipment will deliver boulders to each site and stage, if necessary, for anchoring. California Conservation Corps crew members will anchor the boulder structures using cable and waterproof epoxy.

6. Work in flowing streams is restricted to June 15 through October 31. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Game.

7. The Grantee shall notify the Grant Manager a minimum of five working days before any fish bearing stream reaches are dewatered and the stream flow diverted. The notification will provide a reasonable time for Department personnel to supervise the implementation of the water diversion plan and oversee the safe removal and relocation of salmonids and other aquatic species from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:
   - Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year.
   - The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible.
   - All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
   - The Grantee will provide fish relocation data to the Grant Manager on a form provided by the Department of Fish and Game.
   - Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.

8. All habitat improvements will follow techniques described in the Third Edition, January 1998, of the *California Salmonid Stream Habitat Restoration Manual*, Flosi et al. and the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part XI, January 2004.

9. If the project will not be completed by March 31, 2012, and therefore the grantee will be requesting an amendment for time, this request and a justification for the delay resulting in the time request must be submitted no later than December 1, 2011.

10. An annual report will be submitted each year, no later than December 1, detailing the work completed that field season. The annual report will include, but not necessarily be limited to the following where applicable:
    - Implementation start and end dates
    - Percentage of the project completed in total to date
    - Dewatering and fish relocation on DFG data sheet (to be provided by the DFG grant manager upon request)
    - Project start and end dates for work to be implemented the following season

    The annual report will also include, on a site by site basis:
    - Stream length treated in feet (count one side only)
    - Length of aquatic habitat disturbed (feet)
    - Number of instream structures installed/modified
    - Area of each structure installed within bankfull width (length x width)
    - Length of instream habitat treated excluding bank stabilization

11. Upon completion of the project, the Grantee shall submit two hard copies of a final written report and one electronic, Microsoft Word compatible, copy on a CD. The report shall include, but not necessarily be limited to the following information:
    - Grant number

- Project name
- Geographic area (e.g., watershed name)
- Location of work – show project location using U.S.G.S. 7.5 minute topographical map or appropriately scaled topographical map
- Geospatial reference/location (lat/long is preferred – defined as point, line, or polygon)
- Project start and end dates and the number of person hours expended
- Total of each fund source, by line item, expended to complete the project, breaking down Grant dollars, by line item, and any other funding, including type of match (cash or in-kind service)
- Expected benefits to anadromous salmonids from the project
- Labeled before and after photographs of any restoration activities and techniques
- Specific project access using public and private roads and trails, with landowner name and address
- Complete as built project description
- Report measurable metrics for the project by responding to the restoration project metrics listed below.

Habitat Protection and Restoration Projects– Reporting Metrics (HI)
(Report N/A to those that do not apply)

Habitat Projects: (all)

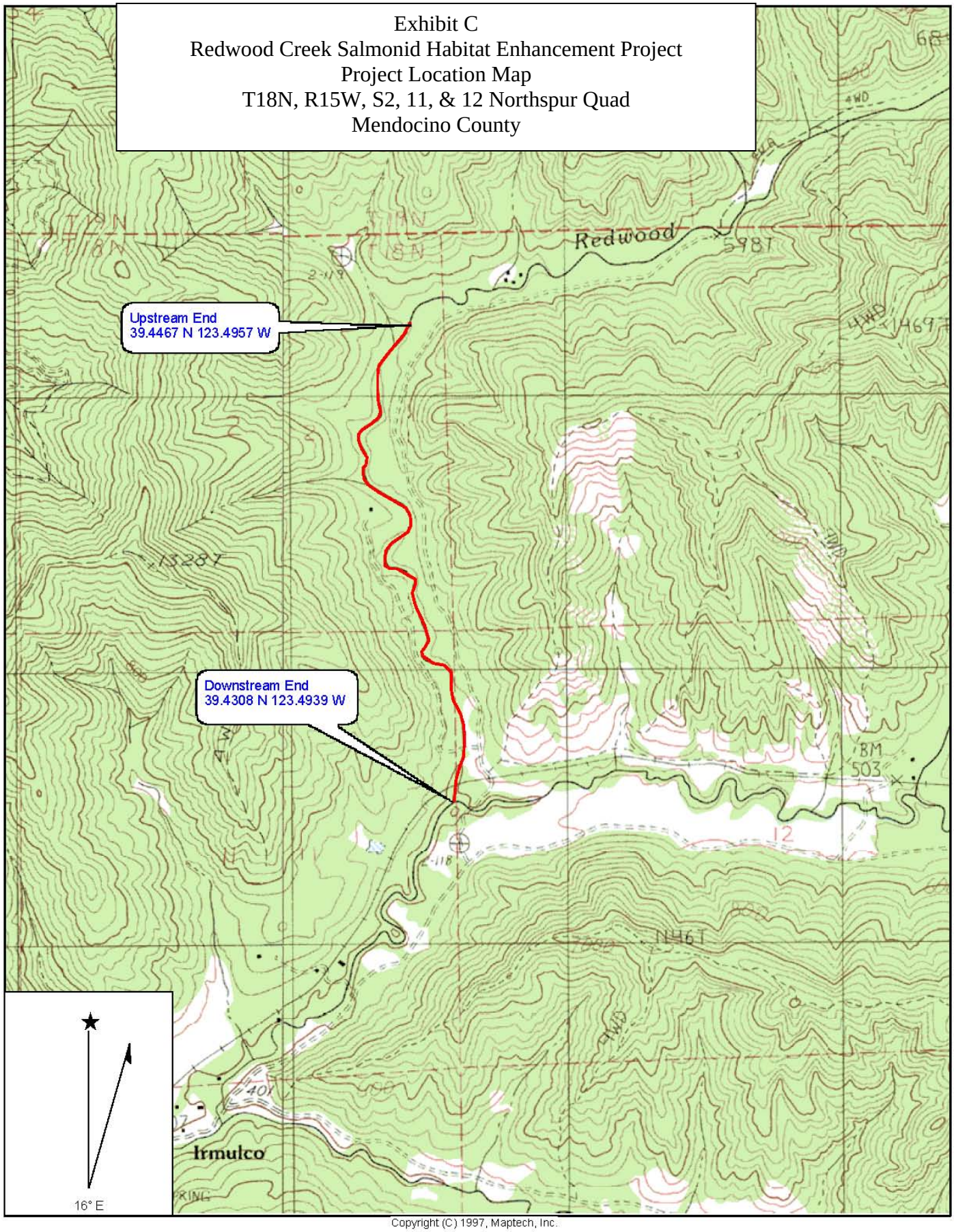
- Identify the watershed/sub-basin plan or assessment in which the project is identified as a priority.
- Name the priority habitat limiting factors identified in that plan that are addressed by the project
- Type of monitoring included in the project
    - Design spec achieved
    - Fish movement/abundance
- Number of stream miles treated/affected by the project within the project boundaries.

Instream Habitat Projects (HI)

- Description of instream treatments used, including site locations referenced to an established landmark, number of treatment sites, and any modifications to site/treatment design.
- Type of materials used for channel structure placement, select from: individual logs (unanchored); logs fastened together (logjam); rocks/boulders (unanchored); rocks/boulders (fastened or anchored); stumps with roots attached (rootwads); weirs; gabions; deflectors/barbs; or other engineered structures
- Miles of stream treated with channel structure placement
- Number of instream pools created by structure placement
- Number of structures placed in channel.

12. The Grantee will acknowledge the participation of the Department of Fish and Game, Fisheries Restoration Grant funds on any signs, flyers, or other types of written communication or notice to advertise or explain the Redwood Creek Salmonid Habitat Enhancement Project.

Exhibit C
Redwood Creek Salmonid Habitat Enhancement Project
Project Location Map
T18N, R15W, S2, 11, & 12 Northspur Quad
Mendocino County



California Department of Fish and Game
Natural Diversity Database
Selected Elements by Common Name - Portrait
Possible Species within the Burbeck Quad and Surrounding Quads for:
Redwood Creek Salmonid Habitat Enhancement Project
T18N R15W S2, 11, 12
United States

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	American badger *Taxidea taxus*	AMAJF04010			G5	S4	SC
2	Baker's meadowfoam *Limnanthes bakeri*	PDLIM02020		Rare	G1	S1.1	1B.1
3	Baker's navarretia *Navarretia leucocephala ssp. bakeri*	PDPLM0C0E1			G4T2	S2.1	1B.1
4	Behren's silverspot butterfly *Speyeria zerene behrensii*	IILEPJ6088	Endangered		G5T1	S1	
5	Del Norte salamander *Plethodon elongatus*	AAAAD12050			G4	S3	SC
6	Humboldt milk-vetch *Astragalus agnicidus*	PDFAB0F080		Endangered	G2	S2.1	1B.1
7	Milo Baker's lupine *Lupinus milo-bakeri*	PDFAB2B4E0		Threatened	G1Q	S1.1	1B.1
8	North Coast semaphore grass *Pleuropogon hooverianus*	PMPOA4Y070		Threatened	G1	S1.1	1B.1
9	Nuttall's ribbon-leaved pondweed *Potamogeton epihydrus ssp. nuttallii*	PMPOT03081			G5T5	S2.2?	2.2
10	Oregon goldthread *Coptis laciniata*	PDRAN0A020			G4G5	S2.2	2.2
11	Pacific fisher *Martes pennanti (pacifica) DPS*	AMAJF01021	Candidate	unknown code...	G5	S2S3	SC
12	Pacific gilia *Gilia capitata ssp. pacifica*	PDPLM040B6			G5T3T4	S2.2?	1B.2
13	Pacific tailed frog *Ascaphus truei*	AAABA01010			G4	S2S3	SC
14	Roderick's fritillary *Fritillaria roderickii*	PMLIL0V0M0		Endangered	G1Q	S1.1	1B.1
15	Sonoma tree vole *Arborimus pomo*	AMAFF23030			G3	S3	SC
16	Valley Oak Woodland	CTT71130CA			G3	S2.1	
17	coast fawn lily *Erythronium revolutum*	PMLIL0U0F0			G4	S3	2.2
18	foothill yellow-legged frog *Rana boylii*	AAABH01050			G3	S2S3	SC
19	glandular western flax *Hesperolinon adenophyllum*	PDLIN01010			G2	S2.3	1B.2
20	grass alisma *Alisma gramineum*	PMALI01010			G5	S1S2	2.2
21	hoary bat *Lasiurus cinereus*	AMACC05030			G5	S4?	
22	maple-leaved checkerbloom *Sidalcea malachroides*	PDMAL110E0			G3G4	S3S4.2	4.2

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
23	northern goshawk *Accipiter gentilis*	ABNKC12060			G5	S3	SC
24	northern spotted owl *Strix occidentalis caurina*	ABNSB12011	Threatened		G3T3	S2S3	SC
25	sharp-shinned hawk *Accipiter striatus*	ABNKC12020			G5	S3	
26	southern torrent salamander *Rhyacotriton variegatus*	AAAAJ01020			G3G4	S2S3	SC
27	steelhead - northern California ESU *Oncorhynchus mykiss irideus*	AFCHA0209Q	Threatened		G5T2Q	S2	SC
28	thin-lobed horkelia *Horkelia tenuiloba*	PDROS0W0E0			G2	S2.2	1B.2
29	tricolored blackbird *Agelaius tricolor*	ABPBXB0020			G2G3	S2	SC
30	western pond turtle *Actinemys marmorata*	ARAAD02030			G3G4	S3	SC
31	white-flowered rein orchid *Piperia candida*	PMORC1X050			G3	S3.2	1B.2
32	yellow warbler *Dendroica petechia brewsteri*	ABPBX03018			G5T3?	S2	SC
33	yellow-breasted chat *Icteria virens*	ABPBX24010			G5	S3	SC

EXHIBIT A

Little North Fork Big River Coho Habitat Restoration Project

SCOPE OF WORK

Under direction of the Department of Fish and Game, and under the following conditions and terms, the Grantee will:

1. Implement site specific erosion control measures to protect and improve salmonid spawning and rearing habitat for coho salmon and steelhead trout in a selected section of Berry Gulch, tributary to the Little North Fork Big River in Mendocino County, California. The objective is to save approximately 6,024 cubic yards of potential sediment delivery by dispersing road runoff on 3.0 miles of road, reestablishing natural drainage patterns at approximately 14 stream crossings and removing or stabilizing sediment from 13 sites along the alignment.

2. Conduct work on abandoned and seasonal roads in the Berry Gulch watershed beginning approximately 1,600 feet upstream from the confluence with Little North Fork Big River. The project is located in Township 17N, Range 17W, Section 1 and Township 17N R16W S6, 7 and 8 of the Mathison Peak 7.5 Minute U.S.G.S. Quadrangle, 39.362 N latitude and 123.692 W longitude as depicted in Exhibit C, Project Location Map, which is attached and made part of this agreement by this reference.

3. Decommission 3.0 miles of road at 27 sites thereby saving approximately 6,024 cubic yards of sediment from delivery to Berry Gulch. The Grantee shall decommission 14 stream crossings, treat 3 landslides, remove 4 ditch relief culverts, and treat 6 "other" sites. Other sites will include the installation of 263 cross road drains or deep water bars, removal of 200 feet of outboard berm material, clean and cut 125 feet of ditch, and outslope and remove ditch along 12,874 feet of road surface. The following road decommissioning treatments will be implemented where appropriate:
   - Excavation of in-place stream crossings at locations where roads or landings were built across stream channels. This includes complete excavation of the fill, including the culvert or Humboldt log crossing so the original stream bed and side slopes are exhumed. A stream crossing excavation includes removing the culvert and the underlying and the adjacent fill material. Complete excavation of stream crossing fills, includes 100 year flood channel bottom widths and 2:1 or otherwise stable side slopes. When possible the excavated spoil will be stored at nearby stable locations where it will not erode. If there is a limited amount of stable storage locations at the excavation site the crossing fill material will be hauled off-site for storage.
   - Road surface treatments: 1) ripping of the surface of the road or landing using mechanical rippers to reduce surface runoff and improve revegetation; 2) in-place outsloping or the excavation of unstable side cast material that could fail and deliver sediment to a stream along the outside edge of a road prism or landing and the replacement of the spoil on the roadbed against the corresponding adjacent

cutbank, or in close proximity of the site; 3) exported out-sloping which involves not placing the material against the cutbank so the material is end hauled to a spoil disposal site; 4) installation of cross drains or deep water bars at 50, 75, 100 or 200 foot intervals or as necessary at springs and seeps to disperse road surface runoff. The cross road drains provide road surface drainage and prevent the collection of concentrated runoff on the former roadbed.

- Seeding and mulching of all exposed soils which may deliver sediment to a stream. Woody debris will be concentrated on finished slopes adjacent to stream crossings. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years.

4. The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured.

5. All crossings treated in fish bearing reaches of streams will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and DFG criteria for adult and juvenile salmonid fish passage as described in the Third Edition, Volume II, Part IX, February 2003, of the *California Salmonid Stream Habitat Restoration Manual*.

6. Sites which are expected to erode and deliver sediment to the stream are the only locations where work will be authorized for reimbursement under the terms of this agreement. Reimbursement will not be authorized for work done to improve aesthetics only.

7. Notify the Grant Manager a minimum of five working days before any fish bearing stream reaches are dewatered and the stream flow diverted. The notification will provide a reasonable time for Department personnel to supervise the implementation of the water diversion plan and oversee the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:
   - Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year.
   - The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible.
   - All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
   - The Grantee will provide fish relocation data to the Grant Manager on a form provided by the Department of Fish and Game.
   - Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.

8. Mulching and seeding will take place as sites are completed to avoid unforeseen erosion. Planting of tree seedlings will take place after December 1 or when sufficient rainfall has occurred to insure the best chance of survival of the seedlings. The standard for success is 80% survival of plantings, after a period of three years.

9. All road decommissioning will be done in accordance with techniques described in the Handbook for Forest and Ranch Roads, (PWA, 1994c.) and the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part X, March 2006. All road decommissioning sites and techniques shall be approved by the Grant Manager before any equipment work takes place.

10. All habitat improvements will follow techniques described in the Third Edition, January 1998, of the *California Salmonid Stream Habitat Restoration Manual*, Flosi et al and the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part XI, January 2004.

11. Work in flowing streams is restricted to June 15 through October 31. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Game.

12. If the project will not be completed by March 31, 2012, and therefore the grantee will be requesting an amendment for time, this request and a justification for the delay resulting in the time request must be submitted no later than December 1, 2011.

13. An annual report will be submitted each year, no later than December 1, detailing the work completed that field season. The annual report will include, but not necessarily be limited to the following where applicable:

    - Implementation start and end dates
    - Percentage of the project completed in total to date
    - Dewatering and fish relocation on DFG data sheet (to be provided by the DFG Grant Manager upon request)
    - Project start and end dates for work to be implemented the following season

    The annual report will also include, on a site by site basis:

    - Road length segment decommissioned or upgraded per road segment
    - Sediment spoils volume estimate per road segment
    - Upslope stream crossings decommissioned (not for fish passage)
    - Stream crossings treated to improve fish passage (number)
    - Stream crossing upgraded
    - Stream length opened for fish passage by improving stream crossings (miles)
    - Sediment volume prevented from entering the stream per crossing
    - Sediment spoils volume estimate per crossing
    - Upslope area treated (sq ft) (landslides, bank stabilization)
    - Amount of riparian area treated per site in acres

- Number of trees planted.

14. Upon completion of the project, the Grantee shall submit two hard copies of a final written report and one electronic, Microsoft Word compatible, copy on a CD. The report shall include, but not necessarily be limited to the following information:
    - Grant number
    - Project name
    - Geographic area (e.g., watershed name)
    - Location of work – show project location using U.S.G.S. 7.5 minute topographical map or appropriately scaled topographical map
    - Geospatial reference/location (lat/long is preferred – defined as point, line, or polygon)
    - Project start and end dates and the number of person hours expended
    - Total of each fund source, by line item, expended to complete the project, breaking down Grant dollars, by line item, and any other funding, including type of match (cash or in-kind service)
    - Expected benefits to anadromous salmonids from the project
    - Labeled before and after photographs of any restoration activities and techniques
    - Specific project access using public and private roads and trails, with landowner name and address
    - Complete as built project description
    - Report measurable metrics for the project by responding to the restoration project metrics listed below.

Habitat Protection and Restoration Projects– Reporting Metrics (HU)
(Report N/A to those that do not apply)

Habitat Projects: (all)

- Identify the watershed/sub-basin plan or assessment in which the project is identified as a priority.
- Name the priority habitat limiting factors identified in that plan that are addressed by the project
- Type of monitoring included in the project
    - Design spec achieved
    - Fish movement/abundance
- Number of stream miles treated/affected by the project within the project boundaries.

Upland Habitat Projects (HU)

- Number of actions (road decommission / upgrade)
- Total acres of upslope area treated.
- Total miles of road treated.
- Miles of road treated for road drainage system improvements.
- Miles of road decommissioned.
- Number of cubic yards of sediment saved from entering the stream.

Fish Passage Improvement Projects (HB):

- Miles of stream treated.
- Types of crossings treated, select from: culvert, bridge or ford.
- Miles of stream made more accessible by treating stream crossings.
- Number of road crossings removed.
- Number of barriers other than culverts treated for fish passage.
- Miles of stream made more accessible by removing barriers other than culverts.

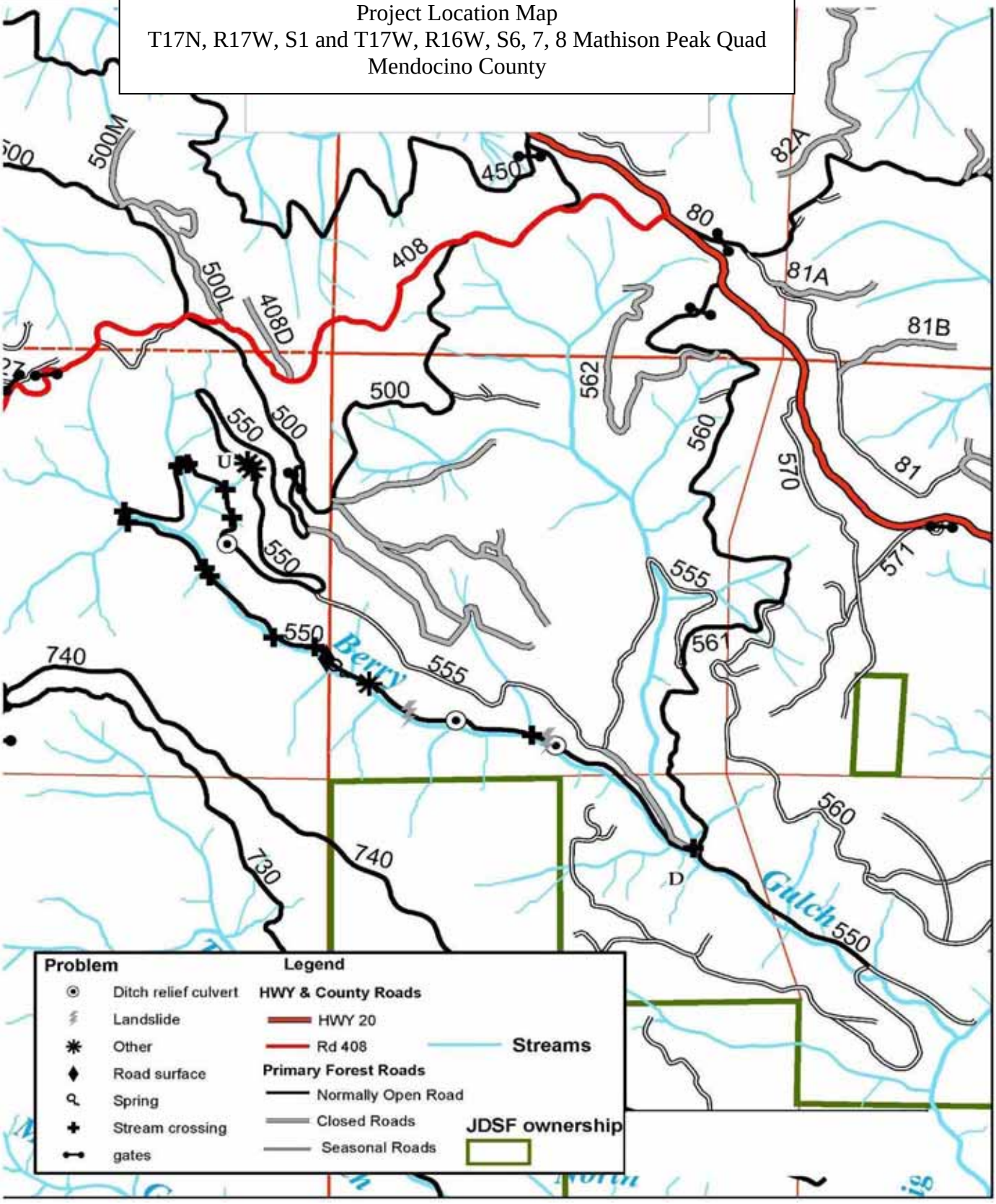
Riparian Habitat Projects (HR, HS)

- Miles of stream treated overall, count stream reach only once.
- Miles of riparian stream bank treated, measure both sides of the bank.
- Total acres of riparian area treated.
- Acres of riparian area planted.
- Species scientific names of plants planted.

15. The Grantee will acknowledge the participation of the Department of Fish and Game, Fisheries Restoration Grant funds on any signs, flyers, or other types of written communication or notice to advertise or explain the Little North Fork Big River Coho Habitat Restoration Project.

Section 8. 3.

Exhibit C
Little North Fork Big River Coho Habitat Restoration Project
Project Location Map
T17N, R17W, S1 and T17W, R16W, S6, 7, 8 Mathison Peak Quad
Mendocino County



California Department of Fish and Game
Natural Diversity Database
Selected Elements by Common Name - Portrait
Possible Species within the Mathison Peak Quad and Surrounding Quads for:
Little North Fork Big River Coho Habitat Restortaion Project
T17N R17W S1; T17N R16W S6, 7, 8
United States

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	Baker's goldfields *Lasthenia californica ssp. bakeri*	PDAST5L0C4			G3TH	SH	1B.2
2	Behren's silverspot butterfly *Speyeria zerene behrensii*	IILEPJ6088	Endangered		G5T1	S1	
3	Blasdale's bent grass *Agrostis blasdalei*	PMPOA04060			G2	S2.2	1B.2
4	Bolander's beach pine *Pinus contorta ssp. bolanderi*	PGPIN04081			G5T3	S3.2	1B.2
5	California red-legged frog *Rana draytonii*	AAABH01022	Threatened		G4T2T3	S2S3	SC
6	California sedge *Carex californica*	PMCYP032D0			G5	S2?	2.3
7	Coastal Brackish Marsh	CTT52200CA			G2	S2.1	
8	Coastal and Valley Freshwater Marsh	CTT52410CA			G3	S2.1	
9	Del Norte salamander *Plethodon elongatus*	AAAAD12050			G4	S3	SC
10	Grand Fir Forest	CTT82120CA			G1	S1.1	
11	Howell's spineflower *Chorizanthe howellii*	PDPGN040C0	Endangered	Threatened	G1	S1.2	1B.2
12	Humboldt Bay owl's-clover *Castilleja ambigua ssp. humboldtiensis*	PDSCR0D402			G4T2	S2.2	1B.2
13	Humboldt milk-vetch *Astragalus agnicidus*	PDFAB0F080		Endangered	G2	S2.1	1B.1
14	Lyngbye's sedge *Carex lyngbyei*	PMCYP037Y0			G5	S2.2	2.2
15	Mendocino Coast paintbrush *Castilleja mendocinensis*	PDSCR0D3N0			G2	S2.2	1B.2
16	Mendocino Pygmy Cypress Forest	CTT83161CA			G2	S2.1	
17	Mendocino leptonetid spider *Calileptoneta wapiti*	ILARAU6040			G1	S1	
18	Menzies' wallflower *Erysimum menziesii ssp. menziesii*	PDBRA160E1	Endangered	Endangered	G3?T2	S2.1	1B.1
19	Navarro roach *Lavinia symmetricus navarroensis*	AFCJB19023			G5T1T2	S1S2	SC
20	North Coast phacelia *Phacelia insularis var. continentis*	PDHYD0C2B1			G2T1	S1.2	1B.2
21	North Coast semaphore grass *Pleuropogon hooverianus*	PMPOA4Y070		Threatened	G1	S1.1	1B.1
22	Northern Coastal Salt Marsh	CTT52110CA			G3	S3.2	
23	Oregon coast paintbrush *Castilleja affinis ssp. litoralis*	PDSCR0D012			G4G5T4	S2.2	2.2
24	Oregon goldthread *Coptis laciniata*	PDRAN0A020			G4G5	S2.2	2.2

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
25	Pacific gilia *Gilia capitata ssp. pacifica*	PDPLM040B6			G5T3T4	S2.2?	1B.2
26	Pacific tailed frog *Ascaphus truei*	AAABA01010			G4	S2S3	SC
27	Point Reyes blennosperma *Blennosperma nanum var. robustum*	PDAST1A022		Rare	G4T1	S1.2	1B.2
28	Point Reyes checkerbloom *Sidalcea calycosa ssp. rhizomata*	PDMAL11012			G5T2	S2.2	1B.2
29	Point Reyes horkelia *Horkelia marinensis*	PDROS0W0B0			G2	S2.2	1B.2
30	Pomo bronze shoulderband *Helminthoglypta arrosa pomoensis*	IMGASC2033			G2G3T1	S1	
31	Siskiyou checkerbloom *Sidalcea malviflora ssp. patula*	PDMAL110F9			G5T1	S1.1	1B.2
32	Sonoma tree vole *Arborimus pomo*	AMAFF23030			G3	S3	SC
33	Sphagnum Bog	CTT51110CA			G3	S1.2	
34	Ten Mile shoulderband *Noyo intersessa*	IMGASC5070			G2	S2	
35	Whitney's farewell-to-spring *Clarkia amoena ssp. whitneyi*	PDONA05025			G5T2	S2.1	1B.1
36	alpine marsh violet *Viola palustris*	PDVIO041G0			G5	S1S2	2.2
37	ashy storm-petrel *Oceanodroma homochroa*	ABNDC04030			G2	S2	SC
38	coast fawn lily *Erythronium revolutum*	PMLIL0U0F0			G4	S3	2.2
39	coast lily *Lilium maritimum*	PMLIL1A0C0			G2	S2	1B.1
40	coastal bluff morning-glory *Calystegia purpurata ssp. saxicola*	PDCON040D2			G4T2	S2.2	1B.2
41	coastal triquetrella *Triquetrella californica*	NBMUS7S010			G1	S1.2	1B.2
42	dark-eyed gilia *Gilia millefoliata*	PDPLM04130			G2	S2.2	1B.2
43	deceiving sedge *Carex saliniformis*	PMCYP03BY0			G2	S2.2	1B.2
44	dwarf alkali grass *Puccinellia pumila*	PMPOA531B0			G4?	S1.1?	2.2
45	foothill yellow-legged frog *Rana boylii*	AAABH01050			G3	S2S3	SC
46	globose dune beetle *Coelus globosus*	IICOL4A010			G1	S1	

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
47	great burnet *Sanguisorba officinalis*	PDROS1L060			G5?	S2.2	2.2
48	hair-leaved rush *Juncus supiniformis*	PMJUN012R0			G5	S2.2?	2.2
49	lagoon sedge *Carex lenticularis var. limnophila*	PMCYP037A7			G5T5	S1S2.2	2.2
50	leafy-stemmed mitrewort *Mitella caulescens*	PDSAX0N020			G5	S4.2	4.2
51	livid sedge *Carex livida*	PMCYP037L0			G5	S1	1A
52	long-beard lichen *Usnea longissima*	NLLEC5P420			G4	S4.2	
53	lotis blue butterfly *Plebejus idas lotis*	IILEPG5013	Endangered		G5TH	SH	
54	maple-leaved checkerbloom *Sidalcea malachroides*	PDMAL110E0			G3G4	S3S4.2	4.2
55	marbled murrelet *Brachyramphus marmoratus*	ABNNN06010	Threatened	Endangered	G3G4	S1	
56	northern goshawk *Accipiter gentilis*	ABNKC12060			G5	S3	SC
57	northern microseris *Microseris borealis*	PDAST6E030			G4?	S1.1	2.1
58	northern red-legged frog *Rana aurora*	AAABH01021			G4T4	S2?	SC
59	northern spotted owl *Strix occidentalis caurina*	ABNSB12011	Threatened		G3T3	S2S3	SC
60	osprey *Pandion haliaetus*	ABNKC01010			G5	S3	
61	perennial goldfields *Lasthenia californica ssp. macrantha*	PDAST5L0C5			G3T2	S2.2	1B.2
62	pink sand-verbena *Abronia umbellata ssp. breviflora*	PDNYC010N2			G4G5T2	S2.1	1B.1
63	purple martin *Progne subis*	ABPAU01010			G5	S3	SC
64	purple-stemmed checkerbloom *Sidalcea malviflora ssp. purpurea*	PDMAL110FL			G5T2	S2.2	1B.2
65	pygmy cypress *Callitropsis pygmaea*	PGCUP04032			G2	S2	1B.2
66	pygmy manzanita *Arctostaphylos mendocinoensis*	PDERI04280			G1	S1?	1B.2
67	round-headed Chinese-houses *Collinsia corymbosa*	PDSCR0H060			G1	S1.2	1B.2
68	running-pine *Lycopodium clavatum*	PPLYC01080			G5	S4.1	4.1

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
69	seacoast ragwort *Packera bolanderi var. bolanderi*	PDAST8H0H1			G4T4	S1.2	2.2
70	seaside tarplant *Hemizonia congesta ssp. congesta*	PDAST4R065			G5T2T3	S2S3	1B.2
71	short-leaved evax *Hesperevax sparsiflora var. brevifolia*	PDASTE5011			G4T2T3	S2S3	1B.2
72	small groundcone *Boschniakia hookeri*	PDORO01010			G5	S1S2	2.3
73	southern torrent salamander *Rhyacotriton variegatus*	AAAAJ01020			G3G4	S2S3	SC
74	steelhead - northern California ESU *Oncorhynchus mykiss irideus*	AFCHA0209Q	Threatened		G5T2Q	S2	SC
75	supple daisy *Erigeron supplex*	PDAST3M3Z0			G1	S1.1	1B.2
76	swamp harebell *Campanula californica*	PDCAM02060			G3	S3	1B.2
77	tidewater goby *Eucyclogobius newberryi*	AFCQN04010	Endangered		G3	S2S3	SC
78	tricolored blackbird *Agelaius tricolor*	ABPBXB0020			G2G3	S2	SC
79	tufted puffin *Fratercula cirrhata*	ABNNN12010			G5	S2	SC
80	western snowy plover *Charadrius alexandrinus nivosus*	ABNNB03031	Threatened		G4T3	S2	SC
81	white beaked-rush *Rhynchospora alba*	PMCYP0N010			G5	S3.2	2.2
82	white-flowered rein orchid *Piperia candida*	PMORC1X050			G3	S3.2	1B.2